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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,673	01/08/2002	Xiaozhong Dang	RR-1765	6144

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MARK A LAUER
7041 KOLL CENTER PARKWAY
SUITE 280
PLEASANTON, CA 94566

EXAMINER

NGUYEN, KHIEM D

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/042,673

Applicant(s)

DANG ET AL.

Examiner

Khiem D Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

New Grounds of Rejection

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

1. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Hsu et al. (U.S. 2002/0191349).

Hsu disclose a method for forming an electromagnetic transducer, the method comprising (See paragraph [0057] to [0065] and FIG. 10A):

forming a first soft magnetic pole layer (FIG. 10A, 82/92) having a substantially flat surface;

forming an inorganic nonferromagnetic layer (FIG. 10A, 210) (alumina Al_2O_3) over the first pole layer;

forming a hardbaked photoresist mask (FIG. 10A, 208) over the inorganic nonferromagnetic layer wherein the mask terminating adjacent to a desired location of the second side;

chemically etching the hardbaked photoresist mask and the inorganic nonferromagnetic layer to create an inorganic nonferromagnetic apex region having a first side that is “substantially” parallel to the surface and a second side that is not parallel to the surface and not perpendicular to the surface (paragraph [0071] and FIG. 10A);

forming an inorganic dielectric layer (FIG. 10A, 205) adjacent to the inorganic nonferromagnetic apex region wherein forming an inorganic dielectric layer that partly covers the first soft magnetic pole layer, prior to forming the inorganic nonferromagnetic apex region;

forming an electrically conductive coil (FIG. 10A, 206) atop the inorganic dielectric layer;

forming a submicron inorganic nonferromagnetic layer (FIG. 10A, 214) adjacent to the region of inorganic nonferromagnetic material; and

forming a second soft magnetic pole layer (FIG. 10A, 232) over the inorganic nonferromagnetic apex region includes forming the second soft magnetic layer over the submicron inorganic nonferromagnetic layer, such that the second pole layer has an interface that is “substantially” equidistant from the second side.

2. Claims 8-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Hsu et al. (U.S. 2002/0191349).

Hsu disclose a method for forming an electromagnetic transducer, the method comprising (See paragraph [0057] to [0065] and FIG. 10A):

forming a first soft magnetic pole layer (FIG. 10A, 82/92) having a substantially flat surface;

forming an inorganic nonferromagnetic layer (FIG. 10A, 210) (alumina Al_2O_3) over the first pole layer;

forming a photoresist mask atop the inorganic nonferromagnetic layer and curing the photoresist mask to form a hardbaked photoresist mask (FIG. 10A, 208);

etching the hardbaked photoresist mask and the inorganic nonferromagnetic layer, including removing the hardbaked photoresist mask, and thereby forming a region of inorganic nonferromagnetic region wherein forming region of inorganic nonferromagnetic material includes forming a side of the region that is not parallel and not perpendicular to the surface (paragraph [0071] and FIG. 10A);

forming an inorganic dielectric layer (FIG. 10A, 205) adjacent to region of inorganic nonferromagnetic material wherein forming an inorganic dielectric layer that partly covers the first soft magnetic pole layer, prior to forming the inorganic nonferromagnetic layer;

forming an electrically conductive coil (FIG. 10A, 206) atop the inorganic dielectric layer;

forming a submicron inorganic nonferromagnetic layer (FIG. 10A, 214) adjacent to the region of inorganic nonferromagnetic material; and

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forming a second soft magnetic pole layer (FIG. 10A, 232) over the region of inorganic nonferromagnetic material and the submicron inorganic nonferromagnetic layer.

3. Claims 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hsu et al. (U.S. 2002/0191349).

Hsu disclose a method for forming an electromagnetic transducer, the method comprising (See paragraph [0057] to [0065] and FIG. 10A):

forming a first soft magnetic pole layer (FIG. 10A, 82/92) having a substantially flat surface;

forming an inorganic nonferromagnetic layer (FIG. 10A, 210) (alumina Al_2O_3) over the first pole layer;

forming a hardbaked photoresist mask (FIG. 10A, 208) over the inorganic nonferromagnetic layer wherein the mask terminating adjacent to a desired location of the sloping surface;

chemically etching the hardbaked photoresist mask and the inorganic nonferromagnetic layer to create an inorganic nonferromagnetic apex region over the first soft magnetic pole layer to have a sloping surface (paragraph [0071] and FIG. 10A);

forming an inorganic dielectric layer (FIG. 10A, 205) that partly covers the first soft magnetic pole layer, prior to forming the inorganic nonferromagnetic apex region;

forming an electrically conductive coil (FIG. 10A, 206) atop the inorganic dielectric layer;

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forming a submicron inorganic nonferromagnetic layer (FIG. 10A, 214) adjacent to the inorganic nonferromagnetic apex region; and

forming a second soft magnetic pole layer (FIG. 10A, 232) over the inorganic nonferromagnetic apex region, such that the second pole layer has a region that is “substantially” parallel to the sloping surface and disposed within one micron of the sloping surface includes forming the second soft magnetic layer over the submicron inorganic nonferromagnetic layer.

Response to Amendment

Responding to applicant's Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D Nguyen whose telephone number is (703) 306-0210. The examiner can normally be reached on Monday-Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9179 for regular communications and (703) 746-9179 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K.N.
June 24, 2003


Olik Chaudhuri
Supervisory Patent Examiner
Technology Center 2800